

# Online Teaching and Learning

## Module 7: Final Blueprint



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### 4<sup>th</sup> Grade Math Enrichment and Problem Solving

**Unit Description:** This math program will include activities and resources that will enrich 4<sup>th</sup> grade mathematics. One of the main focuses will be on problem solving and strategies. The unit will cover areas in math that I am currently teaching, only take it one step further. It will allow students to be more challenged and reinforce basic 4<sup>th</sup> grade math concepts.

**Grade Level or Audience:** 4<sup>th</sup> grade students who are achieving success in the regular math program and show signs of needed to be more challenged.

#### **Online Requirements:**

This course will be 95% online and 5% in class. All assignments will be completed online.

#### **Rationale:**

This course is designed to help challenge 4<sup>th</sup> grade students to achieve higher standards in math. The last few years I have had a larger class size. This fall I will have 26 students in my class. When teaching math, most of my time is spent with students who are having a difficult time understanding the 4<sup>th</sup> grade math concepts. There are a few students in every class that have very strong basic math skills and need to be challenged more. Unfortunately, other than giving them a more challenging assignment, I do not have the time to work with them the way that I would like to in order to challenge their abilities. I feel a math enrichment course that is online would be a wonderful opportunity for these students. It not only teaches math enrichment and problem solving, but introduces them to online learning. It also teaches them learning innovation skills and management because they will be the driving factor behind the success of this on-going unit.

## Welcome Letter:

Dear Parents,

Your child has been invited to participate in an online learning experience to promote math problem solving/critical thinking skills. I have chosen your child to participate in this online class because he/she has shown signs of wanting to be more challenged in 4<sup>th</sup> grade math. This class is completely voluntary and should not create stress for you or your child. Instead, this online experience has been designed to teach your child about technology while learning online as well as challenge them to do higher level critical thinking. Your child can use class time to work on the class and/or time at home. Students will be given extra credit in math for participating in this learning experience.

Each student involved in the **4<sup>th</sup> Grade Math Enrichment Class** will need to spend a minimum of 30 minutes each week on the class. There will be opportunities for your child to be more involved, if they so choose. Your child should be able to complete the weekly assignments on their own, but I encourage parents to monitor their progress.

I will offer an in-school introduction to the class in the computer lab on \_\_\_\_\_. This will allow everyone to login for the first time and help me to answer any questions you may have. I am also available to students during school hours throughout the week if there are any questions. The class will offer many online resources that are available to you and your child.

Please let me know if you are interested in signing your child up for the 4<sup>th</sup> Grade Math Enrichment Class by signing the attached form.

Thank you,

Mrs. Primeau

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\_\_\_\_\_ is interested in being a part of the 4<sup>th</sup> Grade Math Enrichment Class

which is an online learning experience. We will be able to attend the training.

\_\_\_\_\_ is interested in being a part of the 4<sup>th</sup> Grade Math Enrichment Class

which is an online learning experience; however we are unable to attend the training and would like to make other arrangements.

\_\_\_\_\_ is not interested in the 4<sup>th</sup> Grade Math Enrichment Class.

Parent

Signature\_\_\_\_\_

#### **4<sup>th</sup> Grade Math Enrichment/Problem Solving Objectives:**

The student will:

1. demonstrate ability to apply 4<sup>th</sup> grade math skills in online learning environment
2. demonstrate (min. of 3) examples of problem solving strategies
3. explain/describe in group discussions how outcomes were obtained
4. demonstrate problem solving techniques
5. demonstrate understanding of critical thinking skills
6. display results of problem solving using different means
7. consider alternative ways to solve problems
8. solve a variety of types of problems

#### **Course Outline:**

Introduction: This part of the course will be for students and parents. An information meeting will be held to inform parents about the course and the requirements. A letter will be given to parents and students as well as the expectations of the course. A letter will be sent home with any students who do not attend the meeting requiring a parent signature to acknowledge receipt.

The rest of the course will be online. Students may be required to turn in some assignments in class. Students will work at their own pace throughout the first quarter. A minimum of 30 minutes per week will be spent online; however, students may spend up to 2 hours each week online. Students will be rewarded for each task they complete in the online course.

Week one:

4<sup>th</sup> Grade Math Enrichment/Problem Solving

- Introduction
- Requirements/Expectations
- Curriculum
- Resources

Week two:

Introduction to Problem Solving

- Importance
- Strategies
- Assessment

Week three:

Data and Graphs

- Pictograph
- Bar Graphs

Week four:

- Coordinate Grids
- Line Plots

Week five:

- Range, Median, Mode
- Patterns

Week six:

- Problem Solving

**Learning Object:**

<http://www.ixl.com>

**Web Resources:**

[http://teachertube.com/viewVideo.php?video\\_id=88733&title=Boston Red Sox Summer Math Program Problem Solving Methods](http://teachertube.com/viewVideo.php?video_id=88733&title=Boston%20Red%20Sox%20Summer%20Math%20Program%20Problem%20Solving%20Methods)

<http://teachingtoday.glencoe.com/howtoarticles/promoting-problem-solving-skills-in-elementary-mathematics>

[http://www.ehow.com/how\\_4914462\\_teach-elementary-problem-solving-strategies.html](http://www.ehow.com/how_4914462_teach-elementary-problem-solving-strategies.html)

<http://www.mathplayground.com/>

<http://www.figurethis.org/index.html>

<http://www.coolmath-games.com/>

<http://math.rice.edu/~lanius/Lessons/>

<http://library.thinkquest.org/4471/>

<http://www.mathisfun.com/>

<http://mathforum.org/mathworld/>

<http://www.mathstories.com/>

### **Assessment Tool:**

The students will be using: <http://www.ixl.com/math/practice/>  
This website has a built in assessment. The site prints a report that lists the skill practiced, time spent, and the student score. This is an awesome tool. I also like the fact that it tells how much time a student spends on the math problems.

Evaluation will also be done through a weekly problem solving activity. The problem will be posted at the beginning of the week. Students will post their responses in the discussion area at the end of the week and explain how they came up with their answer.

Other resources are available to students to practice math skills above and beyond what they are assigned. These are supplemental and will not be assessed.